

RCRA



Executive Summary

The Preliminary Biennial RCRA Hazardous Waste Report (Based on 1993 Data)

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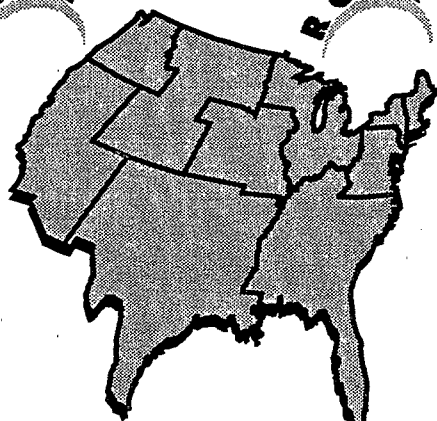
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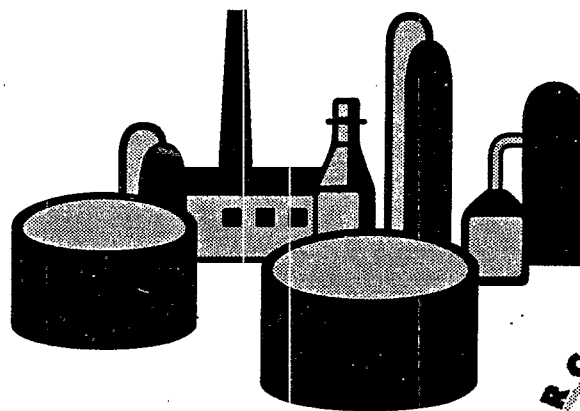
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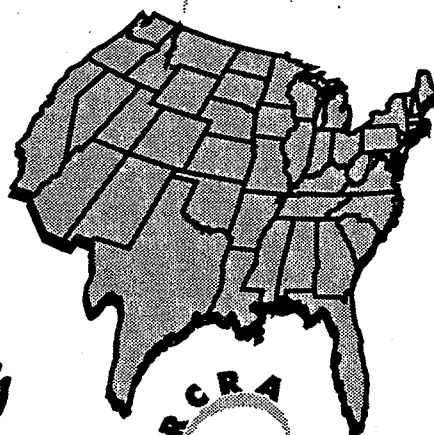


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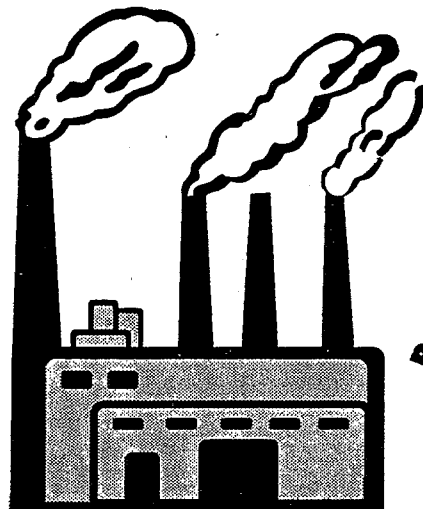
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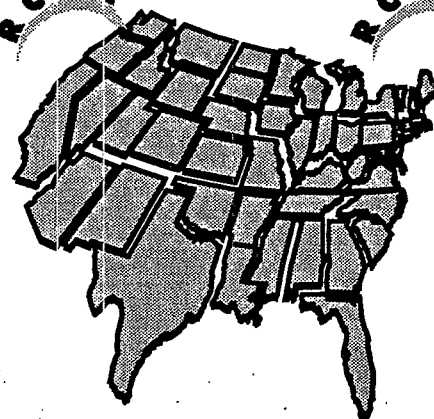


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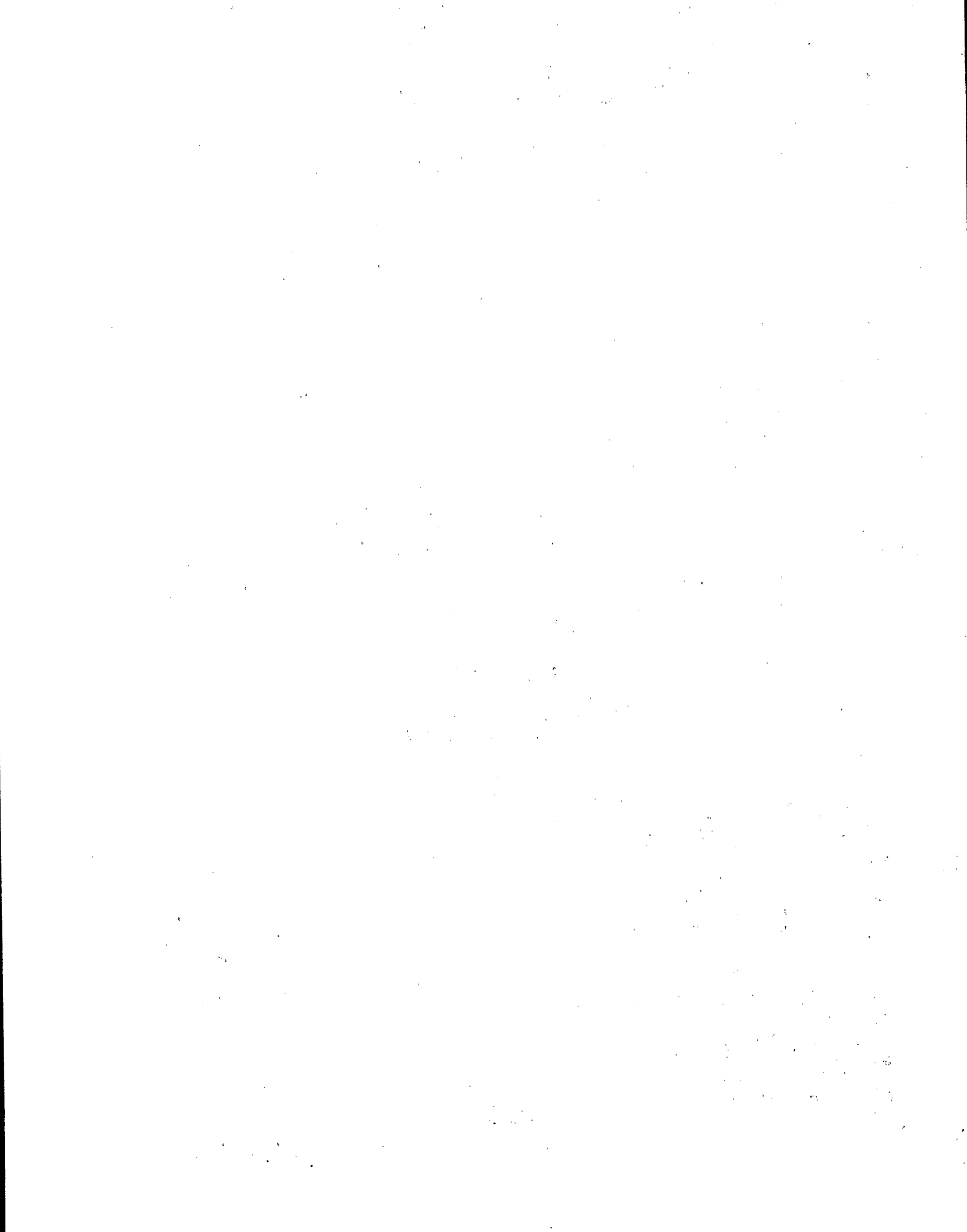
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EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA), in cooperation with the States,¹ biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of this preliminary report is to communicate the findings of EPA's 1993 Biennial Reporting System (BRS) data collection efforts to the public, government agencies, and the regulated community,² as well as to allow an assessment of the quality and completeness of the data submissions on which the report is based. (For further discussion of data quality and completeness see page ES-7). The preliminary report consists of five documents (a "State Summary Analysis" will be included in the final report) :

- o Executive Summary--an overview of national hazardous waste generation and management practices;
- o National Analysis--a detailed look at waste handling practices in the EPA regions, the states and at the largest facilities in the nation, including quantities of generation, management, shipments and receipts, and interstate imports and exports, as well as counts of generators and managers;
- o State Detail Analysis--a detailed look at each state's waste handling practices, including overall totals for generation, management, and shipments and receipts, as well as totals for the largest fifty facilities;
- o List of Large Quantity Generators--identifies every hazardous waste generator in the United States that reported itself to be a large quantity generator in 1993; and
- o List of Treatment, Storage and Disposal Facilities--identifies every hazardous waste manager in the United States that reported itself to be a treatment, storage or disposal facility in 1993.

¹The term "state" includes the District of Columbia, Puerto Rico, Guam, the Navajo Nation, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

²While BRS respondents have submitted Confidential Business Information (CBI) pursuant to 40 CFR 260.2(b), none of these data have been included in this preliminary report.

RCRA HAZARDOUS WASTE GENERATION

In 1993, 22,615 large quantity generators produced 235 million tons of hazardous wastes regulated by RCRA.³ This is a decrease of 811 generators and 70 million tons of waste compared to 1991. As identified in Exhibit 1, the largest hazardous waste generating states were Texas (67 million tons), New York (45 million tons), Louisiana (32 million tons), and Michigan (21 million tons). Together, these states accounted for 70% of the national total.

In comparing 1993 data with those of earlier reports, it is important to note that many new wastes were captured by RCRA in 1990 with the promulgation of the Toxicity Characteristic (TC) Rule. The TC Rule added 25 new hazardous waste codes (D018-D043) and required more stringent analytical tests for the presence of toxic constituents in waste. These codes captured, at a minimum, 76 million tons of wastes that were not regulated before 1990. An additional 41 million tons were described by D018-D043 mixed with other waste codes. This suggests that the new toxicity characteristic wastes captured between 76 and 117 million tons of wastes that were not included in the 1989 Biennial Report, but were included in the 1993 report.

Hazardous waste generators are included in "The Preliminary Biennial RCRA Hazardous Waste Report" if they identified themselves as large quantity generators. The following are the federal criteria for being a large quantity generator:

- o The generator generated in any single month 1,000 kg (2,200 lbs. or 1.1 tons) or more of RCRA hazardous waste; or
- o The generator generated in any single month, or accumulated at any time, 1 kg (2.2 lbs) of RCRA acute hazardous waste; or
- o The generator generated, or accumulated, at any time more than 100 kg (220 lbs) of spill cleanup material contaminated with RCRA acute hazardous waste.

³This quantity only includes waste managed in treatment units subject to RCRA permitting standards or transportation regulations. Hazardous waste managed in units exempt from RCRA permitting standards, such as treatment systems permitted by the National Pollutant Discharge Elimination System (NPDES), is not included in this report.

According to these criteria, a generator that reports more than 13.2 tons (12 months x 1.1 tons) of annual hazardous waste generation must be a large quantity generator, because the generator must have generated at least 1.1 tons in at least one month. A generator that reports less than 13.2 tons in a year may not be a large quantity generator, because they may have generated less than 1.1 tons in every month. Of the 22,615 generators that identified themselves as large quantity generators, there are 13,473 generators that generated more than 13.2 tons in 1993, 7,570 that generated between 1.1 and 13.2 tons, and 1,572 that generated less than 1.1 tons.

It is important to note that the large quantity generators identified in this report have been included on the basis of the best available and most current information provided electronically to the EPA by the States. Both the EPA and the States have made significant efforts to ensure the accuracy of these data. However, the large quantity generator counts may include some generators that met lower, state-defined thresholds for large quantity generators. The EPA and the States endeavor to control for variation in state programs, but it is not always possible to distinguish generators that the federal threshold determines to be large quantity generators from generators that a state threshold determines to be large quantity generators. The EPA and the States also endeavor to ensure that only federally regulated wastes are counted in the determination of federal large quantity generators, but the large quantity generator counts may include generators that, when determining whether they were large quantity generators, counted wastes regulated only by their states or wastes that are exempt from federal regulation.

RCRA HAZARDOUS WASTE MANAGEMENT

In 1993, 3,792 treatment, storage, or disposal facilities (TSDs) subject to RCRA permitting standards managed 211 million tons of hazardous waste. This represents a 70 facility decrease in the number of TSDs and an 84 million ton decrease in the amount of waste managed as compared to 1991. As identified in Exhibit 2, the states managing the largest quantities of hazardous wastes were Texas (58 million tons), New York (45 million tons), Louisiana (31 million tons), and Michigan (21 million tons). Together, these states accounted for 73% of the national management total.

The majority (69.7%) of the national total was managed in aqueous treatment units. Ninety-seven (97) million tons were managed in aqueous organic treatment units, 7 million tons in aqueous inorganic treatment units, and 43 million tons in both inorganic and organic aqueous treatment units.

Land disposal accounts for 12.6% of the management total. Nationwide, 24 million tons of hazardous wastes were disposed in underground injection wells, 1.6 million tons were disposed in landfills, 275 thousand tons were managed in surface impoundments, and 159 thousand tons were managed by land treatment (land farming).

Recovery operations account for 1.6% of the national management total. Facilities reported that 858 thousand tons were managed in solvent recovery units, 1.3 million tons were managed in fuel blending units, 756 thousand tons were managed in metals recovery units, and 501 thousand tons were recovered by other methods such as acid regeneration, waste oil recovery, and non-solvent organic recovery.

Thermal treatment accounts for 1.7% of the national management total. A total of 1.8 million tons were incinerated, while facilities reused 1.8 million tons as fuel in boilers or industrial furnaces.

RCRA HAZARDOUS WASTE SHIPMENTS AND RECEIPTS

In 1993, 22,665 shippers reported shipping a total of 20 million tons of hazardous waste, of which 7 million tons were shipped interstate. The states that shipped (in or out of state) the largest quantities of wastes were Michigan (4.2 million tons), Texas (4.1 million tons), and Utah (2.4 million tons). The states that received the largest quantities of waste (from in or out of state) were Texas (1.3 million tons), California (981 thousand tons), and Ohio (846 thousand tons). The largest importers were Pennsylvania (419 thousand tons), Ohio (418 thousand tons), and Indiana (340 thousand tons). The largest exporters were Michigan (1.5 million tons), California (1.2 million tons), and Texas (318 thousand tons).

Executive Summary

Exhibit 1 Quantity of RCRA Hazardous Waste Generated, and Number of Hazardous Waste Generators, by State, 1993

STATE	HAZARDOUS WASTE QUANTITY			HAZARDOUS WASTE GENERATORS		
	RANK	TONS GENERATED	PERCENTAGE	RANK	NUMBER OF GENERATORS	PERCENTAGE
ALABAMA	26	672,333	0.3	25	292	1.3
ALASKA	49	5,520	0.0	41	76	0.3
ARIZONA	42	46,681	0.0	26	224	1.0
ARKANSAS	24	794,801	0.3	31	162	0.7
CALIFORNIA	6	7,995,598	3.4	3	1,784	7.9
COLORADO	35	358,220	0.2	34	130	0.6
CONNECTICUT	19	1,163,083	0.5	16	438	1.9
DELAWARE	43	25,075	0.0	42	71	0.3
DISTRICT OF COLUMBIA	50	4,626	0.0	50	15	0.1
FLORIDA	25	710,483	0.3	18	412	1.8
GEORGIA	21	921,076	0.4	16	438	1.9
GUAM		NO DATA	RECEIVED	FROM	STATE	
HAWAII	29	492,494	0.2	46	40	0.2
IDAHO	18	1,255,849	0.5	43	59	0.3
ILLINOIS	5	12,492,414	5.3	6	1,237	5.5
INDIANA	14	1,751,572	0.7	10	683	3.0
IOWA	39	158,908	0.1	27	196	0.9
KANSAS	10	3,144,665	1.3	24	297	1.3
KENTUCKY	32	398,258	0.2	15	472	2.1
LOUISIANA	3	31,683,346	13.5	22	347	1.5
MAINE	12	2,418,472	1.0	33	149	0.7
MARYLAND	33	386,618	0.2	12	559	2.5
MASSACHUSETTS	40	109,716	0.0	13	527	2.3
MICHIGAN	4	21,013,620	8.9	8	778	3.4
MINNESOTA	9	5,993,221	2.5	23	300	1.3
MISSISSIPPI	13	1,882,053	0.8	30	163	0.7
MISSOURI	28	528,458	0.2	19	399	1.8
MONTANA	44	11,271	0.0	43	59	0.3
NAVAJO NATION	53	245	0.0	51	9	0.0
NEBRASKA	41	90,471	0.0	37	96	0.4
NEVADA	45	10,759	0.0	38	82	0.4
NEW HAMPSHIRE	38	175,227	0.1	32	153	0.7
NEW JERSEY	22	856,310	0.4	1	2,468	10.9
NEW MEXICO	37	176,432	0.1	43	59	0.3
NEW YORK	2	45,471,076	19.3	2	2,033	9.0
NORTH CAROLINA	31	447,718	0.2	11	623	2.8
NORTH DAKOTA	27	594,815	0.3	49	16	0.1
OHIO	15	1,726,025	0.7	4	1,518	6.7
OKLAHOMA	20	1,145,722	0.5	28	192	0.8
OREGON	16	1,392,194	0.6	29	186	0.8
PENNSYLVANIA	7	7,065,761	3.0	7	1,139	5.0
PUERTO RICO	30	480,265	0.2	35	109	0.5
RHODE ISLAND	47	8,223	0.0	40	77	0.3
SOUTH CAROLINA	36	310,367	0.1	20	387	1.7
SOUTH DAKOTA	52	767	0.0	48	24	0.1
TENNESSEE	34	369,348	0.2	14	517	2.3
TEXAS	1	66,747,138	28.3	5	1,298	5.7
TRUST TERRITORY	48	6,045	0.0	52	3	0.0
UTAH	11	2,874,915	1.2	36	107	0.5
VERMONT	46	8,337	0.0	38	82	0.4
VIRGIN ISLANDS	51	2,049	0.0	53	2	0.0
VIRGINIA	23	851,848	0.4	21	379	1.7
WASHINGTON	8	6,926,406	2.9	9	723	3.2
WEST VIRGINIA		NO DATA	RECEIVED	FROM	STATE	
WISCONSIN	54	0	0.0	54	0	0.0
WYOMING	17	1,316,689	0.6	47	26	0.1
TOTAL		235,473,584	100.0		22,615	100.0

Note: Columns may not sum due to rounding.

Preliminary Biennial RCRA Hazardous Waste Report: Based on 1993 Data

Exhibit 2 Quantity of RCRA Hazardous Waste Managed and Number of TSDs, by State, 1993

STATE	RCRA HAZARDOUS WASTE QUANTITY ¹			TSD FACILITIES		
	RANK	TONS MANAGED	PERCENTAGE	RANK	NUMBER	PERCENTAGE
ALABAMA	24	349,005	0.2	20	50	1.3
ALASKA	51	56	0.0	39	12	0.3
ARIZONA	39	26,359	0.0	30	27	0.7
ARKANSAS	18	804,914	0.4	34	24	0.6
CALIFORNIA	8	6,242,406	3.0	4	244	6.4
COLORADO	26	306,727	0.1	29	28	0.7
CONNECTICUT	36	75,239	0.0	18	54	1.4
DELAWARE	43	1,861	0.0	45	8	0.2
DISTRICT OF COLUMBIA	52	0	0.0	52	1	0.0
FLORIDA	31	113,159	0.1	15	72	1.9
GEORGIA	17	825,522	0.4	17	58	1.5
GUAM		NO DATA	RECEIVED	FROM	STATE	
HAWAII	47	612	0.0	48	6	0.2
IDAHO	16	935,049	0.4	43	9	0.2
ILLINOIS	5	11,349,555	5.4	7	133	3.5
INDIANA	11	1,972,197	0.9	9	103	2.7
IOWA	29	130,002	0.1	26	34	0.9
KANSAS	10	3,202,245	1.5	18	54	1.4
KENTUCKY	27	222,471	0.1	23	42	1.1
LOUISIANA	3	31,452,957	14.9	16	67	1.8
MAINE	46	911	0.0	22	45	1.2
MARYLAND	38	31,791	0.0	3	285	7.5
MASSACHUSETTS	40	9,794	0.0	30	27	0.7
MICHIGAN	4	20,516,890	9.7	8	132	3.5
MINNESOTA	9	6,015,307	2.9	20	50	1.3
MISSISSIPPI	12	1,901,716	0.9	35	22	0.6
MISSOURI	22	516,407	0.2	10	88	2.3
MONTANA	44	1,695	0.0	43	9	0.2
NAVAJO NATION	52	0	0.0	54	0	0.0
NEBRASKA	37	45,458	0.0	36	19	0.5
NEVADA	34	82,601	0.0	47	7	0.2
NEW HAMPSHIRE	41	9,354	0.0	38	13	0.3
NEW JERSEY	19	657,728	0.3	2	397	10.5
NEW MEXICO	28	165,976	0.1	37	16	0.4
NEW YORK	2	44,510,329	21.1	11	81	2.1
NORTH CAROLINA	25	336,975	0.2	14	73	1.9
NORTH DAKOTA	20	593,349	0.3	45	8	0.2
OHIO	13	1,897,197	0.8	6	136	3.6
OKLAHOMA	14	1,156,392	0.5	25	40	1.1
OREGON	21	568,633	0.3	40	11	0.3
PENNSYLVANIA	6	7,280,356	3.5	11	81	2.1
PUERTO RICO	30	122,036	0.1	23	42	1.1
RHODE ISLAND	49	126	0.0	40	11	0.3
SOUTH CAROLINA	15	1,104,523	0.5	33	25	0.7
SOUTH DAKOTA	52	0	0.0	50	3	0.1
TENNESSEE	23	424,970	0.2	28	30	0.8
TEXAS	1	57,820,904	27.5	5	233	6.1
TRUST TERRITORY	42	5,808	0.0	51	2	0.1
UTAH	32	103,546	0.0	30	27	0.7
VERMONT	45	1,120	0.0	42	10	0.3
VIRGIN ISLANDS	50	90	0.0	52	1	0.0
VIRGINIA	35	81,625	0.0	13	74	2.0
WASHINGTON	7	6,770,554	3.2	1	731	19.3
WEST VIRGINIA		NO DATA	RECEIVED	FROM	STATE	
WISCONSIN	33	94,955	0.0	27	32	0.8
WYOMING	48	520	0.0	49	5	0.1
TOTAL		210,639,971	100.0		3,792	100.0

¹Quantity managed only by storage is excluded.

Note: Columns may not sum due to rounding.

DATA QUALITY AND COMPLETENESS

The data presented in this report have been provided by States to their respective EPA regional offices. In some cases data were also collected by EPA Regional offices. When the data were transmitted to EPA Headquarters, the state or region that collected the data provided an indication of how complete the data were for each state that was being transmitted. Exhibit 3 lists the current level of completion for each state according to one of the four categories described below.

1. State believes data submission is complete.

State has indicated that it provided all required data for all handlers that were required to file the 1993 Biennial Report, including all LOGs and TSDs in the state. (Please note that sites claiming confidential business information have been excluded from all volumes of this report.)

2. State believes data submission is incomplete.

State has indicated that its data omitted handlers that were required to file the 1993 Biennial Report. Data for these states will probably change when a full submission is received for the state.

3. No data received from state.

State has not provided any data to EPA.

4. Data translation error has occurred.

The data submitted appear to contain a systematic data error.

Preliminary Biennial RCRA Hazardous Waste Report: Based on 1993 Data

Exhibit 3 Status of State data submissions, 1993

STATE	STATUS OF STATE DATA SUBMISSION
ALABAMA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
ALASKA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
ARIZONA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
ARKANSAS	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
CALIFORNIA	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
COLORADO	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
CONNECTICUT	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
DELAWARE	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
DISTRICT OF COLUMBIA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
FLORIDA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
GEORGIA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
GUAM	NO DATA RECEIVED FROM STATE.
HAWAII	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
IDAHO	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
ILLINOIS	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
INDIANA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
IOWA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
KANSAS	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
KENTUCKY	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
LOUISIANA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
MAINE	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
MARYLAND	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
MASSACHUSETTS	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
MICHIGAN	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
MINNESOTA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
MISSISSIPPI	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
MISSOURI	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
MONTANA	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
NAVAJO NATION	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEBRASKA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEVADA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEW HAMPSHIRE	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEW JERSEY	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEW MEXICO	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NEW YORK	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NORTH CAROLINA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
NORTH DAKOTA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
OHIO	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
OKLAHOMA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
OREGON	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
PENNSYLVANIA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
PUERTO RICO	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
RHODE ISLAND	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
SOUTH CAROLINA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
SOUTH DAKOTA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
TENNESSEE	STATE BELIEVES DATA SUBMISSION IS INCOMPLETE.
TEXAS	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
TRUST TERRITORY	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
UTAH	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
VERMONT	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
VIRGIN ISLANDS	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
VIRGINIA	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
WASHINGTON	STATE BELIEVES DATA SUBMISSION IS COMPLETE.
WEST VIRGINIA	NO DATA RECEIVED FROM STATE.
WISCONSIN	DATA TRANSLATION ERROR HAS OCCURRED.
WYOMING	STATE BELIEVES DATA SUBMISSION IS COMPLETE.

